REMARKS

Applicants appreciate the Examiner's thorough examination of the present application as evidenced by the Office Action of August 9, 2006 (hereinafter "Office Action"). In response, Applicants have amended independent Claims 1, 9, 20, 28, 39, and 47 to clarify that the print function is invoked using a processor and the deferred trace data buffer is processed using the same processor. Dependent Claims 7, 8, 18, 19, 26, 27, 37, 38, 45, 46, 56, and 57 have been canceled without prejudice or disclaimer. Applicants have also amended the Specification to address the Section 101 rejections. Applicants respectfully submit that the cited references fail to disclose or suggest, among other things, all of the recitations of the independent claims as amended. Accordingly, Applicants submit that all pending claims are in condition for allowance. Favorable reconsideration of all pending claims is respectfully requested for at least the reasons discussed hereafter.

Section 101 Rejections

Claims 20 - 57 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. (Office Action, page 3). Turning first to Claims 20 - 38, the Office Action states these claims "recite a 'system' comprising a series of means that can be reasonably interpreted in view of the specification as software, per se." (Office Action, page 4). Applicants respectfully disagree. According to Section 2181, part II of the Manual Of Patent Examining Procedure (MPEP), "35 U.S.C. 112 sixth paragraph states that a claim limitation expressed in means-plus-function language 'shall be construed to cover the corresponding structure described in the specification and equivalents thereof.' 'If one employs means plus function language in a claim, one must set forth in the specification an adequate disclosure showing what is meant by that language. If an applicant fails to set forth an adequate disclosure, the applicant has in effect failed to particularly point out and distinctly claim the invention as required by the second paragraph of section 112.' *In re Donaldson Co.*, 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994) (in banc)." The functionality recited in Claims 20 - 38 is described, for example, with reference to FIGS. 4 and 5 at page 9, line 20 through page 13, line 15. Moreover, the Specification explains that the blocks shown in

FIGS. 4 and 5 can be implemented by computer program instructions stored in a computer-readable memory and/or other hardware as follows:

> The present invention is described hereinafter with reference to flowchart and/or block diagram illustrations of methods, systems, and computer program products according to an embodiment of the invention. It will be understood that each block of the flowchart and/or block diagram illustrations, and combinations of blocks in the flowchart and/or block diagram illustrations, may be implemented by computer program instructions. These computer program instructions may be provided to a processor of a general purpose computer, special purpose computer, or other programmable data processing apparatus to produce a machine, such that the instructions, which execute via the processor of the computer or other programmable data processing apparatus, create means for implementing the functions specified in the flowchart and/or block diagram block or blocks.
>
> These computer program instructions may also be stored in a computer-usable or computer-readable memory that can direct a computer or other programmable data processing apparatus to function in a particular manner, such that the instructions stored in the computer-usable or computer-readable memory produce an article of manufacture including instruction means that implement the function specified in the flowchart and/or block diagram block or blocks.
>
> The computer program instructions may also be loaded onto a computer or other programmable data processing apparatus to cause a series of operational steps to be performed on the computer or other programmable apparatus to produce a computer implemented process such that the instructions that execute on the computer or other programmable apparatus provide steps for implementing the functions specified in the flowchart and/or block diagram block or blocks. (Specification, page 8, lines 30 - page 9, line 19).

Applicants submit that the Specification provides structural support for the means plus function recitations of Claims 20 - 38 in the form, for example, of FIGS. 4 and 5 and the description reproduced above explaining that the blocks of FIGS. 4 and 5 may be implemented in hardware and/or as computer program instructions stored in a computer-readable memory. Accordingly, Applicants respectfully submit that Claims 20 - 38 meet all the requirements of 35 U.S.C. §101.

Turning next to Claims 39 - 57, the Office Action states that these claims are directed to computer-readable storage media, but the Specification defines computer-readable storage such that it can be reasonably interpreted to include signals and thus the claim is non-

statutory. (Office Action, page 5). Furthermore, page 5 of the Specification includes paper as a computer readable medium, and thus the claim covers non-functional descriptive material, which is non-statutory. (Office Action, page 5). While Applicants do not concede that a signal and paper are non-statutory examples of a computer-readable storage medium, to advance prosecution and to facilitate an early allowance of the present application, Applicants have amended the paragraph beginning at page 5, line 1 of the Specification to remove the references to a "propagation medium" and the computer-readable medium being paper. Accordingly, Applicants respectfully submit that Claims 39 - 57 meet all the requirements of 35 U.S.C. §101.

Independent Claims 1, 9, 20, 28, 39, and 47 are Patentable

Independent Claims 1, 9, 20, 28, 39, and 47 stand rejected under 35 U.S.C. §102(a) as being anticipated by a combination of Texas Instruments documents related to DSP/BIOS firmware (hereinafter "DSP/BIOS documents").

Independent Claims 1, 9, 20, 28, 39, and 47 are directed to methods, systems, and computer program products for printing data from an application in which a print function is invoked with a format argument and the format argument is saved in a deferred trace data buffer. As discussed above, the independent claims have been amended to clarify that the print function is invoked using a processor and the deferred trace data buffer is processed using the same processor.

In sharp contrast to the recitations of independent Claims 1, 9, 20, 28, 39, and 47, the LOG_printf() function described in the DSP/BIOS documents buffers messages on a DSP, but these messages are then transferred to a host PC for processing and display. For example, the second to last sentence of the paragraph under Step G in the document identified in the Office Action as "MauR1999" states: "The LOG_printf() messages buffered on the DSP are transferred by the LNK_dataPump() function to the host PC for processing and display in a Message Log tool."

Thus, the DSP/BIOS documents do not disclose or suggest, at least, using the same processor to store printf() arguments in a deferred trace data buffer and also to process the deferred trace data buffer to print one or more of the arguments.

For at least the foregoing reasons, Applicants respectfully submit that independent Claims 1, 9, 20, 28, 39, and 47 are patentable over the cited references and that dependent Claims 2 - 6, 10 - 17, 21 - 25, 29 - 36, 40 - 44, and 48 - 55 are patentable at least by virtue of their depending from an allowable claim.

Independent Claims 9, 28, and 47 are Patentable

Independent Claims 9, 28, and 47 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U. S. Patent No. 5,983,366 to King (hereinafter "King") in view of U. S. Patent No. 6,282,701 to Wygodny et al. (hereinafter "Wygodny").

Independent Claims 9, 28, and 47 are directed to methods, systems, and computer program products for printing data from an application in which a print function is invoked with a format argument and the format argument is saved in a deferred trace data buffer. The independent claims have been amended to clarify that the print function is invoked using a processor and the deferred trace data buffer is processed using the same processor. Moreover, the format argument is a pointer to a memory location in an address space of the application. Embodiments including this aspect of the present invention are described, for example, at page 11, lines 5 - 16 of the Specification.

King explains at column 19, lines 17 - 27, that a computer program may perform a trace by calling a trace macro, which in turns calls a trace function that includes a numerical identification of the trace message and a pair of parameters. In King's example, the trace message is identified as number 7292. The parameters and trace identification are packed into a message and transmitted from the data processing system 252 to the host processor 254. (King, col. 19, lines 40 - 44). Once the message is received at the host processor 254, the host processor 254 looks "up the trace id and then correctly unpack the trace message and display the trace string and its parameters in the way defined in the trace control file..." Thus, in sharp contrast to the recitations of independent Claims 9, 28, and 47, King describes processing the trace message, which includes a trace identification and parameters, on a

different processor (host processor 254) than the processor executing the computer program that is being traced (data processing system 252). Applicants submit that Wygodny fails to provide the missing teachings.

In addition, the Office Action acknowledges that King does not disclose "the format argument being a pointer to a memory location in an address space of the application..." (Office Action, page 11). The Office Action does assert, however, that Wygodny teaches "displaying a pointer (for example, variable names) and the contents of the memory referred to by the pointer as part of a trace output display..." (Office Action, page 12).

To establish a prima facie case of obviousness, the prior art reference or references when combined must teach or suggest *all* the recitations of the claims, and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. §2143. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. §2143.01, citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). As recently emphasized by the Court of Appeals for the Federal Circuit, to support combining references, evidence of a suggestion, teaching, or motivation to combine must be **clear and particular**, and this requirement for clear and particular evidence is not met by broad and conclusory statements about the teachings of references. *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). In an even more recent decision, the Court of Appeals for the Federal Circuit has stated that, to support combining or modifying references, there must be **particular** evidence from the prior art as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000).

Applicants respectfully submit that the King and Wygodny references contain no description therein to suggest to or motivate one skilled in the art to modify King's computer program tracing system with the teachings Wygodny. In fact, Applicants respectfully submit that the disclosures of King and Wygodny teach against such a combination as the resulting computer program tracing system as alleged by the Office Action would be inoperable.

As discussed above, because King describes processing the trace message, which includes a trace identification and parameters, on a different processor (host processor 254) than the processor executing the computer program that is being traced (data processing system 252), replacing the trace identification with a pointer would not work because the host processor 254 does not have access to the address space of the data processing system 252. That is, a pointer to a memory location in the data processing system 252 is useless to the host processor 254. As shown in FIG. 2 of Wygodny, the analyzer 106 and the client 102 share a trace buffer 105, but the analyzer does not have access to the address space of the user application executing on the client 102.

Accordingly, Applicants respectfully submit that one skilled in the art would not be motivated to replace the trace identification described in King with a pointer as described in Wygodny or Bugg as such a replacement would render King's computer program tracing system inoperable.

For at least the foregoing reasons, Applicants respectfully submit that independent Claims 9, 28, and 47 are patentable over the cited references and that dependent Claims 10 - 19, 29 - 38, and 48 - 57 are patentable at least by virtue of their depending from an allowable claim.

Dependent Claims 11 - 14, 30 - 33, and 49 - 52 are Patentable

Dependent Claims 11 - 14, 30 - 33, and 49 - 52 stand rejected under 35 U.S.C. §103(a) as being unpatentable over King in view of Wygodny and further in view of the document "The Visual C++ Debugging Environment" authored by Keith Bugg (hereinafter "Bugg"). (Office Action page 12). Dependent Claims 11 - 14, 30 - 33, and 49 - 52 depend from independent Claims 9, 28, and 47,which Applicants submit are patentable for at least the reasons discussed above. Applicants submit that Claims 11 - 14, 30 - 33, and 49 - 52 are patentable over the cited references at least by virtue of their depending from an allowable claim. *Ex parte Ligh*, 159 U.S.P.Q. (BNA) 61, 62 (Bd. App. 1967).

Dependent Claims 4, 5, 23, 24, 42, and 43 are Patentable

Dependent Claims 4, 5, 23, 24, 42, and 43 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the DSP/BIOS documents in view of the article entitled "Z88 Development Kit: A Small C++ Compiler for Z80 based Machines" authored by Dominic Morris (hereinafter "Morris"). (Office Action page 14). Dependent Claims 4, 5, 23, 24, 42, and 43 depend from independent Claims 1, 20, and 39,which Applicants submit are patentable for at least the reasons discussed above. Applicants submit that Claims 4, 5, 23, 24, 42, and 43 are patentable over the cited references at least by virtue of their depending from an allowable claim. *Ex parte Ligh*, 159 U.S.P.Q. (BNA) 61, 62 (Bd. App. 1967).

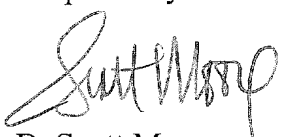
Dependent Claims 13, 14, 32, 33, 51, and 52 are Patentable

Dependent Claims 13, 14, 32, 33, 51, and 52 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the DSP/BIOS documents in view of Bugg. (Office Action page 16). Dependent Claims 13, 14, 32, 33, 51, and 52 depend from independent Claims 9, 28, and 47,which Applicants submit are patentable for at least the reasons discussed above. Applicants submit that Claims 13, 14, 32, 33, 51, and 52 are patentable over the cited references at least by virtue of their depending from an allowable claim. *Ex parte Ligh*, 159 U.S.P.Q. (BNA) 61, 62 (Bd. App. 1967).

CONCLUSION

In light of the above amendments and remarks, Applicants respectfully submit that the above-entitled application is now in condition for allowance. Favorable reconsideration of this application is respectfully requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (919) 854-1400.

Respectfully submitted,



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CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on February 9, 2007.

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